WE CLAIM:

1.   A method for determining the mucosal neutrophil count with an exceptional degree

of sensitivity, accuracy and precision of a human individual which comprises the steps

of

      (a)   obtaining from said person an oral mucosal sample collected by swishing

a measured quantity of a mouthwash around his or her mouth for a timed

interval of not more than 1 minute,

      (b)   delivering a measured quantity of said sample or of an aqueous dilution

of said sample to a sample pad supported on a strip, said sample pad

having impregnated therein or deposited thereon

          (i)   a sufficient quantity of a chemical compound that is cleaved into

at least two fragments when exposed to the action of an enzyme

known to be characteristically present in human neutrophils to

react completely with the target enzyme in the sample and

          (ii)   unless one of said fragments is inherently chromophoric, a dye

precursor, a fluorescence imparting material or a chemilumines

imparting compound in sufficient quantity to react completely

with one of said fragments to form a colored, fluorescent or

chemiluminescent product,

      (c)   allowing said sample or said aqueous dilution of sample and the

ingredients present on the pad to remain in contact as color, fluorescence

or chemiluminescence develops

(d) measuring the intensity of the color, fluorescence or chemiluminescence and

(e) comparing the intensity measured to a predetermined standard that correlates the measurement to the number of human neutrophils in the sample.

2. A method according to Claim 1 wherein the mouth wash in step (a) is a saline/bicarbonate buffer, the compound of step b (i) is an ester cleavable by human leukocyte elastase and the ingredient of step b (ii) is a dye that reacts with one of said fragments to form a distinct color.

3. A method according to claim 2 wherein the compound of step (b) is an indoxylcarbonic acid ester and the dye of step b (ii) is a diazo dye that produces a uniform purple color.

4. A method accordingly to Claim 3 wherein the mouthwash sample is collected after a times interval of 30 seconds.